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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,951	09/04/2003	George R. Cameron	3PD-M-8497 US	8894

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PATENT LAW GROUP LLP
2635 NORTH FIRST STREET
SUITE 223
SAN JOSE, CA 95134

EXAMINER

ALAM, SHAHID AL

ART UNIT	PAPER NUMBER
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2162

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/655,951

Applicant(s)

CAMERON ET AL.

Examiner

Shahid Al Alam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1 – 14 are pending in this Office action.

Response to Arguments

2. Applicant's arguments and amendment filed July 28, 2006 have been fully considered but they are not persuasive for the following reasons.

3. Applicant's main argument is that Hitz does not disclose a snapshot tree structure having a first snapshot that descends from a base volume and a second snapshot that descends from the first snapshot.

Applicant's teachings of the WAFL system, where the WAFL file system is a tree of blocks with the root inode similar to Applicant's tree structure, which describes the inode file, at the top, and meta-data files and regular files underneath (see Figures 1 and 2).

The amendment of claim seems to be resolved one of the categories of 35 U.S.C. 101 rejection. However, the amendment does not produce any useful result. Therefore, the 35 U.S.C. 101 rejection for the non-statutory subject matter is maintained.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

Specification

4. The disclosure is objected to because of the following informalities:

Please delete "Attorney Docket Number" and fill-up any blank space in paragraph [0087] and [0099].

Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application with useful, concrete and tangible result.

A practical application can be either physical transformation or a **useful**, concrete and **tangible** result.

The amendment of claims 1, 6 and 11 seem to be resolved one of the categories of 35 U.S.C. 101 rejection. However, the amendment does not produce any useful result.

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Claim 1 is not limited to tangible embodiments. In view of Applicant's disclosure, specification page 10, lines 4 – 6, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., physical disks) and

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intangible embodiments (e.g., Fibre channel, communication standard environments).

As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

The computer readable medium as recited in the claims 1 – 5 can be a storage medium as well as a signal or “communication standard environments” as described in applicant's disclosure in page 10, paragraph [0042]. These particular sections in the disclosure refer to “communication media.” Claim 1, and other claims that depend in it, are not patent eligible because claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Dave Hitz et al. (File System Design for an NFS File Server Appliance).

With respect to claim 1, Hitz teaches a computer readable medium encoded with a snapshot tree structure, the snapshot tree structure providing point-in-time back-ups of a base volume (Figure 2), the snapshot tree structure comprising: a first branch (Figure 3C), comprising: the base volume storing a current user data (page 5, Introduction, paragraph 5); a first read-only snapshot descending from the base volume (Figure 4 and corresponding text), the first read-only snapshot being created at a first time, the first read-only snapshot storing a first data of the base volume at the first time before the first data is modified in the base volume (Figure 3b, paragraph 3.4; create new snapshot by making duplicate copy of the root inode); and

a second read-only snapshot descending from the first snapshot, the second read-only snapshot being created at a second time earlier than the first time, the second read-only snapshot storing a second data of the base volume at the second time before the second data is modified in the base volume (Figure 4 and corresponding text; contents are written to a new location).

As to claim 2, a second branch, comprising a first read-write snapshot descending from one of the first and the second read-only snapshots (see Figure 4).

As to claim 3, the second branch further comprises a third read-only snapshot descending from the first read-write snapshot, the third read-only snapshot being created at a third time, the third read-only snapshot storing a third data of the first read-write snapshot at the third time before the third data is modified in the first read-write snapshot (see Figure 4; written to a new location up to the root of the tree).

As to claim 4, third branch, comprising a second read-write snapshot descending from the third read-only snapshot (see Figure 4).

As to claim 5, the third branch further comprises a fourth read-only snapshot descending from the second read-write snapshot, the fourth read-only snapshot being created at a fourth time, the fourth read-only snapshot storing a fourth data of the second read-write snapshot at the fourth time before the fourth data is modified in the read read-write snapshot (see Figure 4; written to a new location up to the root of the tree).

With respect to claim 6, in addition to the rejection of claim 1, Hitz further teaches inserting the second read-only snapshot between the base volume and the first read-only snapshot, wherein the first read-only snapshot now descends from the second read-only snapshot (see Figure 4 and corresponding text).

Subject matter of claims 7 – 10 are rejected in the analysis above in claims 1 – 5 and these claims are rejected on that basis.

With respect to claim 11, Hitz teaches a method for retrieving a point-in-time backup of a base volume (Figure 2) by reading a value of a data block from a snapshot tree structure having a base volume, a first snapshot descending from the base volume, and a second snapshot descending from the first snapshot (Figure 4 and corresponding text), the method comprising:

- searching for the data block in the second snapshot;

- if the data block is not found in the second snapshot:

- following a link in the second snapshot to the first snapshot;

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searching for the data block in the first snapshot (see Figures 2, 3b, 3c and 4 and corresponding texts).

Subject matter of claims 12 – 14 are rejected in the analysis above in claims 1 – 5 and these claims are rejected on that basis.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Al Alam whose telephone number is (571) 272-4030. The examiner can normally be reached on Monday-Thursday 8:00 A.M. - 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Shahid Al Alam
Primary Examiner
Art Unit 2162

4 February 2007